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EXAMINER

DIVECHA, KAMAL B

ART UNIT	PAPER NUMBER
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2151

MAIL DATE	DELIVERY MODE
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05/14/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

09/943,562

Applicant(s)

DOYLE ET AL.

Examiner

KAMAL B. DIVECHA

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 March 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 45-104 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 45-104 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date: _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date: _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claims 45, 46, 48-79, 82-98, 103 and 104 are pending in this application.

Claims 1-44, 80, 81 and 99-102 were previously cancelled in this application.

Claim 47 is cancelled in this application.

Claims 103 and 104 are newly added claims.

Response to Arguments

Applicant's arguments filed on March 20, 2007 with respect to claims 45, 46, 48-79, 82-98 have been fully considered but are moot in view of the new ground(s) of rejection, as presented herein, as necessitated by the claim amendments.

Claim Rejections - 35 USC § 112

The 35 U.S.C. 112, second paragraph rejection presented in the previous office action has been withdrawn due to claim amendments.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

1. Claims 45, 46, 48-49, 51-79, 82-98, 103 and 104 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hu (hereinafter Hu, U.S. Patent No. 6,173,322 B1) in view of Hu et al. (U. S. Patent No. 6,535,518 B1), and further in view of Fielding et al. (hereinafter Fielding, RFC 2068 HTTP/1.1).

As per claim 45, Hu discloses a method of serving objects in a computing network, the method comprising:

receiving a request from a sender for an object stored on an intelligent storage system, the request being received by a web server (fig. 4 block #404 and fig. 2 block #202);

evaluating the request for the object based upon at least one predetermined criterion (fig. 4 item #406 and col. 7 L53-63);

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if the at least one predetermined criterion is met, returning a response message from the web server to the sender, wherein the sender utilizes the response message to obtain the object in manner that bypasses the web server for outbound traffic from the intelligent storage system to the client (col. 11 L4 to col. 12 L52: i.e. when the redirection criteria is satisfied, the system utilizes redirect module);

if the at least one predetermined criterion is not met, serving the stored object from the intelligent storage system to the sender via the web server (col. 11 L4 to col. 12 L52: i.e. when the redirection criteria is not satisfied, the system operates under proxy module, which obtains the response from the storage device and forwards the response to the client or sender).

However, Hu does not disclose intelligent storage system comprising a control unit configured to determine a mapping for the requested object to a location on an associated storage device (i.e. a network-attached storage system) and the process wherein the response message includes a location of the object on the associated storage device of the intelligent storage system.

Hu et al., from the same field of endeavor, explicitly discloses an intelligent storage system comprising a control unit configured to determine a mapping for the requested object to a location on an associated storage device (i.e. a network-attached storage system, col. 2 L35-67, fig. 8 item 110, fig. 9 item #250, col. 5 L1-62, col. 6 L19-67, col. 7 L15-36, col. 8 L30 to col. 9 L24, col. 19 L63 to col. 20 L49, fig. 11, fig. 12).

Therefore it would have been obvious to a person of ordinary skilled in the art at the time the invention was made to modify Hu in view of Hu et al., in order to include a an intelligent storage system such as network-attached storage.

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One of ordinary skilled in the art would have been motivated because it would have improved the overall system performance, throughput and quality of service (QoS) (Hu et al., col. 3 L25 to col. 4 L15, col. 5 L1-11, col. 6 L59-67).

However, Hu in view of Hu et al. does not expressly disclose the process wherein the response message includes a location of the object on the associated storage device of the intelligent storage system (note that Hu return “whatever information” to the client so that client can establish a direct connection between the content server and itself in order to receive the response directly from the content server).

Fielding explicitly discloses the process wherein the response message, i.e. a redirect message, includes a location of the object on the associated storage device ([10.3]: an inherent, obvious and a well known feature of HTTP protocol).

Therefore it would have been obvious to a person of ordinary skilled in the art at the time the invention was made to modify Hu in view of Hu et al., and further in view of Fielding in order return a response message which includes a location of the object on the associated device of the intelligent storage device.

One of ordinary skilled in the art would have been motivated because it would have automatically redirected a client's request to an appropriate location (Fielding, [10.3.1]).

As per claim 46, Hu discloses the process wherein returning a response message from the web server to the sender comprises informing a sender of the received request that a subsequent connection to the control unit should be established for serving the stored object (col. 6 L14-22; col. 13 L45-47; col. 12 L43-48; col. 18 L47-51).

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As per claim 48, Hu discloses the process wherein the response message comprises redirect indication of an existing protocol (col. 11 L17-34 and col. 3 L8-10: http uses 302 as a redirect code).

As per claim 49, Hu discloses the process wherein the existing protocol is Hypertext Transfer Protocol (col. 5 L29-34; col. 6 L60-61).

As per claim 51, Hu discloses the process further comprising automatically requesting establishment of the subsequent connection between the sender and the storage system in response to the response message (col. 12 L35-40).

As per claim 52, Hu in view of Hu et al. discloses the process wherein evaluating the request for the object based upon the at least one predetermined criterion comprises evaluating the request for the object based upon a size of the stored object (Hu, col. 12 L10-42; Hu et al., col. 6 L19-67). One of ordinary skilled in the art would have been motivated because of the same reasons as set forth in claim 45.

As per claim 53, Hu discloses the process wherein evaluating the request for the object based upon the predetermined criterion comprises comparing a size of the stored object to a statically-specified number (col. 10 L1-9; col. 8 L26-38 and fig. 6 step#602).

As per claim 54, Hu discloses the process wherein the statically-specified number is specified by an administrator using a configuration interface (col. 7 L60-62).

As per claim 55, Hu discloses the process wherein evaluating the request for the object based upon at least one predetermined criterion comprises comparing a size of the stored object to a dynamically-determined number (fig. 6 block #204 and step #602, 604; col. 7 L53-61; col. 5 L55-67 and col. 10 L1-5).

As per claim 56, Hu discloses the process wherein the dynamically-determined number is determined in view of current network conditions (col. 9 L7-65).

As per claim 57, Hu in view of Hu et al., discloses evaluating the request for the object based upon at least one predetermined criterion comprises evaluating a naming extension (such as jpeg or mpeg file) of the stored object (Hu, fig. 7 block #702 and fig. 6 step #602 and col. 8 L26-38; Hu et al., col. 1 L5-32, col. 5 L25 to col. 6 L59, col. 7 L15-16). One of ordinary skilled in the art would have been motivated because of the same reasons as set forth in claim 45.

As per claim 58, Hu in view of Hu et al., discloses evaluating the naming extension of the stored object comprises determining whether a naming extension matches an element in a statistically-specified set of naming extensions (Hu, fig. 7 block #702 and fig. 6 step #602 and col. 8 L26-38; Hu et al., col. 1 L5-32, col. 5 L25 to col. 6 L59, col. 7 L15-16). One of ordinary skilled in the art would have been motivated because of the same reasons as set forth in claim 45.

As per claim 59, Hu in view of Hu et al., discloses the process wherein the statically-specified set of naming extensions is specified by an administrator using a configuration interface (Hu, col. 7 L60-62; Hu et al., col. 1 L5-32). One of ordinary skilled in the art would have been motivated because of the same reasons as set forth in claim 45.

As per claim 60, Hu in view of Hu et al., discloses the process wherein evaluating the request for the object based upon predetermined criterion comprises determining whether a naming extension matches an element in a set of dynamically-determined set of naming extensions (Hu, fig. 7 block #702 and fig. 6 step #602 and col. 8 L26-38; Hu et al., col. 1 L5-32). One of ordinary skilled in the art would have been motivated because of the same reasons as set forth in claim 45.

As per claim 61, Hu in view of Hu et al., discloses the process wherein the dynamically-determined set of naming extensions is determined in view of current network conditions (Hu, col. 9 L7-65; Hu et al., col. 1 L5-32). One of ordinary skilled in the art would have been motivated because of the same reasons as set forth in claim 45.

As per claim 62, Hu in view of Hu et al., discloses the process wherein evaluating the request for the object based upon at least one predetermined criterion comprises evaluating the request for a name of the stored object (Hu et al., col. 5 L25 to col. 6 L59, col. 7 L15-26). One of ordinary skilled in the art would have been motivated because of the same reasons as set forth in claim 45.

As per claim 63, Hu discloses the process wherein evaluating the request based on criteria comprises determining whether an object name matches an element in a statically-specified set of object names (fig. 7 block #702 and fig. 6 step #602 and col. 8 L26-38).

As per claim 64, Hu discloses the process wherein the statically-specified set of object names is specified by an administrator using a configuration interface (col. 7 L60-64).

As per claim 65, Hu discloses the process wherein evaluating the request based on criteria comprises determining whether an object name matches an element in a set of dynamically-determined set of object names (fig. 7 block #702 and fig. 6 step #602 and col. 8 L26-38).

As per claim 66, Hu discloses the process wherein the dynamically-determined set of object names is determined in view of current network conditions (col. 9 L7-65).

As per claim 67, Hu discloses the process wherein the predetermined criteria comprises a content type of the stored object (col. 13 L5-10).

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As per claim 68, Hu discloses the process wherein evaluating the request based on criteria comprises determining whether a content type matches an element in a statically-specified set of content types (fig. 7 block #702 and fig. 6 step #602 and col. 8 L26-38).

As per claim 69, Hu discloses the process wherein the statically-specified set of content types is specified by an administrator using a configuration interface (col. 7 L53-62; col. 8 L42-59).

As per claim 70, Hu discloses the process wherein evaluating the request based on criteria comprises determining whether a content type matches an element in a set of dynamically-determined set of content types (fig. 7 block #702 and fig. 6 step #602 and col. 8 L26-38).

As per claim 71, Hu discloses the process wherein the dynamically-determined set of content types is determined in view of current network conditions (col. 9 L7-65).

As per claim 72, Hu discloses the process wherein evaluating the request for the object upon at least one predetermined criterion comprises using one or more wildcards which may operate to match more than one stored object (col. 6 L53-61).

As per claim 73, Hu does not disclose the process wherein the intelligent storage system comprises a network-attached storage.

Hu et al., from the same field of endeavor explicitly discloses the intelligent storage system, i.e. a network-attached storage (col. 2 L35-67, fig. 8 item 110, fig. 9 item #250).

Therefore it would have been obvious to a person of ordinary skilled in the art at the time the invention was made to modify Hu in view of Hu et al., in order to employ network-attached storage system.

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One of ordinary skilled in the art would have been motivated because of the same reasons as set forth in claim 45.

As per claim 74, Hu discloses a method of creating a link to an object, the method comprising:

receiving a request for a particular object that is stored in an intelligent storage system (col. 5 L29-34; col. 18 L29);

evaluating at least one characteristic of the particular object (col. 6 L62-67 and col. 8 L8-10; col. 18 L30-31);

retrieving a redirect link that instructs web server receiving the request to return a response message if the at least one evaluated characteristics of the particular object is satisfied (col. 5 L41-47 and col. 12 L43-52), the response message being configured to redirect the request to the storage system (fig. 2 item #212, col. 12 L35-36); and

locating an object serving link that is utilized by the web server receiving the request to obtain the object from the intelligent storage system and return object in response to the request if the evaluated characteristics of the particular object is not satisfied (col. 5 L20-54 and fig. 13: more than one request manager implies that there is more than one redirect file employed, col. 6 L43-61 and col. 11 L45-59).

However, Hu does disclose an intelligent storage system comprising a control unit configured to determine mapping for the requested object to a location on an associated storage device and the process wherein the response message includes the location of the requested object on the associated storage device of the intelligent storage system.

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Hu et al., from the same field of endeavor, explicitly discloses an intelligent storage system comprising a control unit configured to determine a mapping for the requested object to a location on an associated storage device (i.e. a network-attached storage system, col. 2 L35-67, fig. 8 item 110, fig. 9 item #250, col. 5 L1-62, col. 6 L19-67, col. 7 L15-36, col. 8 L30 to col. 9 L24, col. 19 L63 to col. 20 L49, fig. 11, fig. 12).

Therefore it would have been obvious to a person of ordinary skilled in the art at the time the invention was made to modify Hu in view of Hu et al., in order to include a an intelligent storage system such as network-attached storage.

One of ordinary skilled in the art would have been motivated because it would have improved the overall system performance, throughput and quality of service (QoS) (Hu et al., col. 3 L25 to col. 4 L15, col. 5 L1-11, col. 6 L59-67).

However, Hu in view of Hu et al. does not expressly disclose the process wherein the response message includes a location of the object on the associated storage device of the intelligent storage system (note that Hu returns “whatever information” to the client so that client can establish a direct connection between the content server and itself in order to receive the response directly from the content server).

Fielding explicitly discloses the process wherein the response message, i.e. a redirect message, includes a location of the object on the associated storage device ([10.3]: an inherent, obvious and a well known feature of HTTP protocol).

Therefore it would have been obvious to a person of ordinary skilled in the art at the time the invention was made to modify Hu in view of Hu et al., and further in view of Fielding in

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order return a response message which includes a location of the object on the associated device of the intelligent storage device.

One of ordinary skilled in the art would have been motivated because it would have automatically redirected a client's request to an appropriate location (Fielding, [10.3.1]).

As per claim 75, Hu discloses the process wherein the redirect file enables returning a redirect status code to a requester of the object (col. 12 L43-52).

As per claim 76, Hu discloses the process of requesting establishment of a subsequent connection automatically in response to receiving the redirect status code for retrieving the particular object directly from the intelligent storage system (col. 12 L35-40 and col. 18 L47-51).

As per claim 77, Hu discloses the process wherein contents of the redirect file are programmatically created (col. 5 L20-22 and L40-47).

As per claim 78, Hu in view of Hu et al. does not explicitly disclose the process wherein the contents of the redirect file are manually created, However, the process of manually creating the redirect link is known in the art Therefore it would have been obvious to a person of ordinary skilled in the art at the time the invention was made to modify Hu in view of Hu et al. in order to create the contents of the redirect link manually. One of ordinary skilled in the art would have motivated because it would have enabled a web site developer or an administrator to redirect traffic to an appropriate destination.

As per claim 103, Hu, Hu et al. and Fielding discloses the process wherein the receiving a request from a sender for an object on an intelligent storage system, the request being received by a web server, and the intelligent storage system comprising a control unit configured to determine the mapping for the requested object to a location on an associated storage device

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further comprises providing a web server within the intelligent storage system capable of processing HTTP redirect messages (Hu: fig. 2, col. 5 L20-67; Hu et al.: col. 2 L35-67, fig. 8 item 110, fig. 9 item #250, col. 5 L1-62, col. 6 L19-67, col. 7 L15-36, col. 8 L30 to col. 9 L24, col. 19 L63 to col. 20 L49, fig. 11, fig. 12).

As per claim 104, Hu, Hu et al and Fielding discloses the process wherein the returning of a redirect code from the web server to the sender further comprises obtaining a redirect file stored on the web server that identifies the location of the object on the intelligent storage system (Hu: col. 5 L41-47 and col. 12 L43-52, fig. 2 item #212, col. 12 L35-36; Fielding: [10.3]).

As per claims 79, 82-98, they do not teach or further define over the limitations in claims 45, 46, 48-49, 51-78, 103 and 104. Therefore, claims 79, 82-98 are rejected for the same reasons as set forth in claims 45, 46, 48-49, 51-78, 103 and 104.

2. Claim 50 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hu (hereinafter Hu, U.S. Patent No. 6,173,322 B1) in view of Hu et al. (U. S. Patent No. 6,535,518 B1), further in view of Fielding et al. (hereinafter Fielding, RFC 2068 HTTP/1.1), and further in view of Dillon et al (hereinafter Dillon, U.S. Patent No. 6,658,463 B1).

As per claim 50, Hu, Hu et al. and Fielding does not explicitly disclose the process of using the wireless session protocol.

Dillon explicitly discloses a satellite communications network including an upstream proxy server and two reporting downstream proxy servers wherein communication takes place through a wireless satellite link using wireless session protocol (fig. 7 and col. 12 L52-58).

Therefore, it would have been obvious to a person of ordinary skilled in the art at the time the invention was made to incorporate the teaching of Dillon with Hu, Hu et al. and Fielding in order to order to enable communications wirelessly by using wireless session protocol.

One of ordinary skilled in the art would have been motivated because it would have improved the transmission efficiency by providing high-speed and continuous channel carrying packetized data (Dillon et al, col. 1 L15-21; col. 3 L38-57).

Additional References

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- a. Brothers, US 6,438,125 B1: Method and Systems for Redirecting web page requests on a tcp/ip network.
- b. DeBettencourt et al., US 6,279,001 B1: Web Service.

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- c. Chow et al., US 6,029,175: Automatic Retrieval of Changed Files by a network software agent.
- d. Wendt et al., US 6,067,558: Providing Increased content from a resource constrained device.
- e. Vange et al., US 7,143,195 B2: HTTP Redirector.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

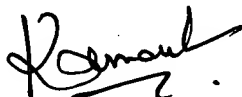
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to KAMAL B. DIVECHA whose telephone number is 571-272-5863. The examiner can normally be reached on Increased Flex Work Schedule.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Zarni Maung can be reached on 571-272-3939. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Kamal Divecha
Art Unit 2151
May 7, 2007.



ZARNI MAUNG
SUPERVISORY PATENT EXAMINER